These facts contribute to confirm the observations of anatomists, who have pointed out the existence of two orders of elementary tubes in the nerves of animal life and in those of the sympathetic: but the large tubes predominating in the former, the thin ones in the latter.

The absence of ganglionary globules on the anterior or motor roots of spinal nerves anatomically distinguishes the elementary tubes of motor nerves of animal life from those of sensitive nerves. But this decisive character can be remarked only so far as where the anterior and posterior roots unite. If, to push the theory further, we were asked what functions we would attribute to the cells of the ganglia, we should answer that they are the modifiers of the action which goes on in the sensitive and in the organic nerves; but that it is impossible to form an idea of the nature of such modification.

Since the ganglia of the sympathetic and of the cerebro-spinal nerves enclose the same sorts of ganglionary globules, and the same elementary tubes, but only in different proportions, we see that we cannot, with Reil and Bichat, &c., conceive two independent nervous systems. This opinion is founded on the communications of the great sympathetic with the spinal nerves; on the fact that the sympathetic exclusively furnishes the nerves of the diaphragm of birds; on the partial and successive substitution of sympathetic nerves for spinal and encephalic in a great many vertebrata.

ORGANIC CHEMISTRY.

5. *Nature of the Colouring Matter of the Bile.* By M. BLONDLOT.—Tiedemann and Gmelin, as well as most modern chemists, consider that the colouring matter of the bile, as also all other colouring matters of organic origin, present tints which increase or diminish in depth according as they contain more or less oxygen; and that the transition from yellow to red, green, blue, and violet, which the colouring matter of the bile manifests under the influence of certain reagents, is due essentially to oxidation. It seems more probable, however, that carbon, and not oxygen, is the substance which must be regarded as the principal agent concerned in the production of colour in these organic matters. For example, it is well known that, when concentrated sulphuric acid is placed in contact with almost any organic substance, it destroys such substance, and, at the same time, acquires a more or less black colour. This circumstance depends, without any doubt, on the great affinity of sulphuric acid for water, the formation of which it determines at the expense of the oxygen and hydrogen of the organic matter; so that the carbon, being rendered more and more predominant, finally appears with its characteristic black colour. Now, if one examines with attention the phenomena which are manifested in this simple experiment, it will be readily perceived that the colour becomes black only by degrees, and after having passed through different shades of yellow, red, brown, and violet. It is indeed true that these various tints are not well marked, and appear to be confounded one with the other; nevertheless, there are some substances which, treated thus with sulphuric acid, produce much more strongly marked colours: such, for example, are the resinous substances, and especially the biliary resin. If a small quantity of this substance be placed in concentrated sulphuric acid, it will be observed, during its decomposition, to present a series of distinct and well-marked colours. The liquid becomes at first yellow, then orange, red, lilac, green, blue, or violet, and, lastly, black. Now it is evident that in this case the colouring matter has acquired a tint the depth of which has increased in proportion as the carbon became more predominant. And analogy leads to the conclusion that a similar view may be held in regard to other colouring matters of organic origin. The colouring matter of the bile, therefore, is deeper according as it is richer in carbon; and, in cases where the colour is very dark, the colouring matter appears to consist almost entirely of carbon. This is well shown also in the fact pointed out by Berzelius, that there exists one kind of biliary calculus which appears to be principally composed of carbon.—*Essai sur les fonctions du foie.*

6. *Colouring Matter of the Bile.*—**Polli**, one of the most energetic of the Italian physiological chemists, has recently published (in his own Journal) a memoir on the nature of the colouring matters of the blood and bile. The following are his principal conclusions:

1st. The yellow pigment of the bile and the red pigment of the blood, are one and the same substance in different stages of oxidation.

2d. The occasionally green and occasionally yellow colour of the bile contained in the fæces, the different tints in the skin in jaundice, and the change of colour observed in ecchymoses, are all dependent on different stages of oxidation of the same pigment.

3d. The red colouring matter of the blood is converted into yellow during its retrograde metamorphosis; the yellow pigment being in fact hæmatin that is no longer of service in the system, or has become excrementitious.

4th. The yellow pigment appears to be formed in part within the vascular system by a direct metamorphosis of the hæmatin of the corpuscles: taking place slowly in healthy persons, but rapidly in jaundiced ones. In both cases a corresponding quantity of it is discharged by the urine. The remainder of the yellow pigment is formed in the liver from the blood or its colouring matter by a process of reduction.—*Day's Report*, in *Ranking's Abstract*, from *Annali di Chim.*, Jan. 1846.

7. *Detection of Mercury in the Pus from a Bubo.*—In order to disperse a bubo, a man had been ordered to rub in several ounces of mercurial ointment. Poultices were applied, and when the gland was opened, the pus was collected and analyzed. It yielded unequivocal traces of quicksilver.—*Lond. Med. Gaz.*, July, from *Heller's Archiv.*, 1847, H. 2. S. 185.

MATERIA MEDICA AND PHARMACY.

8. *Citrate of Magnesia as a Purgative.*—M. **Rage Delabarre**, in making some experiments with salts of magnesia, had occasion to observe that the citrate of magnesia is devoid of the bitter and disagreeable taste which characterizes the other salts of this base; he has hence been induced to recommend it as a purgative. "It may be obtained," he says, "in two different ways. It may be made by double decomposition from sulphate of magnesia and citrate of soda, or by saturating a solution of citric acid with magnesia or the basic carbonate. If it be prepared by saturating a solution, somewhat concentrated, of the acid, the liquor which is at first liquid and transparent, becomes in an instant a hard mass, adhering strongly to the sides of the vessel in which the combination is effected. This arises, probably, from the water which at first holds the salt in solution, passing to the state of water of hydration.

The neutral citrate of magnesia, prepared by either of the processes above described, is a white pulverulent insipid salt, soft to the touch, heavier than magnesia, and soluble in water aided by the addition of a slight excess of the acid. This solution has a slightly acid taste, but is in no way disagreeable.

M. Delabarre proposes the following formulæ for the administration of the citrate of magnesia:—

No. 1 (mild).

	grammes.		grains.
Citrate of magnesia, - - - - -	40	=	617·360
Citric acid, - - - - - - -	2	=	30·868
Simple syrup, - - - - - -	125	=	1929·252
Essence of orange, - - - - -	q. s.		
Water charged with carbonic acid, - -	q. s.		

to fill a common mineral water bottle, containing 750 grammes (about the size of a wine bottle).